

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-4 and 6-9 are now present in the application. Claim 1 has been amended. Claim 5 has been incorporated into claim 1 and hereby cancelled. Claim 1 is independent. Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. §119

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. §119, and receipt of the certified priority document.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed on August 8, 2006, and for providing Applicants with an initialed copy of the PTO-1449 form filed therewith.

Drawings

The Examiner did not indicate whether or not the formal drawings have been accepted. Since no objection has been received, Applicants assume that the drawings are acceptable and that no further action is necessary. Confirmation thereof in the next Office Action is respectfully requested.

Claim Objection

Claim 1 has been objected to due to the presence of minor informalities. In view of the foregoing amendments, in which the Examiner's helpful suggestions have been followed, it is respectfully submitted that this objection has been addressed. Accordingly, Applicants respectfully submit that this objection has been obviated and/or rendered moot. Reconsideration and withdrawal of this objection are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Fuse, JP 2001-303463 [sic., JP 2003-111481], in view of Nagashima, U.S. Patent Application Publication No. US 2002/0117983. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

In light of the foregoing amendments, Applicants respectfully submit that this rejection has been obviated and/or rendered moot. While not conceding to the Examiner's rejection, but merely to expedite prosecution, as the Examiner will note, independent claim 1 has been amended to incorporate the subject matter of claim 5. In particular, independent claim 1 recites a combination of elements including "a position of the vehicle sun roof is detected on the basis of detection signals of the magnetic sensor, which correspond to three or two of three phases, and said control unit performs arithmetic processing so as to control the position and a speed of the vehicle sun roof on the basis of a count signal, which is generated by counting rising edges and trailing edges of pulses of the pole detection signals." Applicants respectfully submit that the

combination of elements as set forth in amended independent claim 1 is not disclosed or suggested by the references relied on by the Examiner.

In particular, the Examiner alleged that Fuse discloses all claimed features except for the sun roof device and the push-pull mechanism. Applicants respectfully disagree. In fact, Fuse (machine English translation) in abstract and paragraphs [0037] and [0038] discloses as follows:

Solution: In this driving method of a motor drive, frequency information proportional to the rotational speed of a rotor is detected, a Hall element output signal formed out of a sinusoidal waveform is outputted by a Hall element, and a Hall amplifier output signal is developed which has the amplitude depending on an output signal level of torque obtained from the frequency information using the Hall element output signal and which is formed out of a rectangular waveform or a sinusoidal waveform. The rectangular waveform or the sinusoidal waveform of the Hall amplifier output signal is selected based on a switching signal for switching on/off control. *When the rectangular waveform is selected, rectangular wave drive by pulse duration control at an electrical degree 180 deg. is performed for a stator during the driving of the motor, or when the sinusoidal waveform is selected, sinusoidal wave driving is performed for the stator during the normal driving after startup.*

[0037] *Hall element output signal 68 (refer to drawing 6) which is an output from the Hall device U phase 24, the Hall device V phase 25, and the Hall device W phase 26 is inputted into the hall amplifier 22, and the hall amplifier output signal 62 which consists of a square wave or a sine wave is generated from these Hall element output signals 68. This hall amplifier output signal 62 is amplified according to the DC voltage level of the output of the torque amplifier 20, and is outputted to the PWM comparator U phase 27, the PWM comparator V phase 28, and the PWM comparator W phase 29.*

[0038] *The hall amplifier output signal 62 is changed to the rectangular wave signal for performing the square wave drive by 180-degree energization control, and the sine wave signal for performing sine wave driving according to the drive switching signal 61 from CPU11. Current is supplied by the 24VDC power supply 30 and the Hall device resistors for bias 31 and 32, and Hall devices 24, 25, and 26 output the position information on the rotor 53 as a voltage waveform by them. (Emphasis added.)*

It seems that the Examiner referred to Fuse's Hall element output signal 68 as the detection signals of the magnetic sensor. Although the Hall element output signal 68 output from the Hall device (U phase) 24, the Hall device (V phase) 25, and the Hall device (W phase)

26 output the position information, this position information is the *position of the rotor 53 to the stator 55* (see also paragraphs 0043, 0048, 0070), *not the position of the vehicle sun roof* as recited in claim 5 (now incorporated in claim 1). Therefore, Fuse fails to teach “*a position of the vehicle sun roof* is detected on the basis of detection signals of the magnetic sensor, which correspond to three or two of three phases” as recited in claim 1.

In addition, Fuse simply discloses that the rectangular wave signal or the sine wave signal from the hall amplifier output signal 62 is used to drive the motor. However, Fuse nowhere discloses that *the rising edges and trailing edges of the rectangular wave signal or the sine wave signal will be counted* to control the position and a speed of the motor. Therefore, Fuse fails to teach “said control unit performs arithmetic processing so as to control the position and a speed of the vehicle sun roof on the basis of a count signal, which is generated by counting rising edges and trailing edges of pulses of the pole detection signals” as recited in claim 1.

Nagashima also fails to cure the deficiencies of Fuse. In particular, Nagashima in paragraph [0026] discloses as follows:

The gear 23 is operated by the electric motor 25 via the speed reduction gear 25b. A control device 40 is connected to the electric motor 25 for performing control starting and stopping of the electric motor 25 and for performing control of a rotational direction thereof. The electric device 40 is provided with terminals 41, 42, and 43. The terminal 41 receives signals from a switch (not shown) for operating the sun roof apparatus 10. The terminal 42 is connected to a revolution signal terminal 25c of a rotational sensor 25a provided in the electric motor 25. *The rotational sensor 25a outputs signals in response to the revolution of the electric motor 25.* The terminal 43 is connected to *a position signal terminal 25d provided in the speed reduction gear 25b. The position signal terminal 25d outputs a position signal of the sliding panel 13* by means of a switch and the like. (Emphasis added.)

In other words, the position of the sliding panel 13 is detected by the signal terminal 25d in the speed reduction gear 25b, not from the signal detected by any magnetic sensors.

Therefore, Nagashima also fails to teach “a position of the vehicle sun roof is detected on the basis of *detection signals of the magnetic sensor*, which correspond to three or two of three phases” as recited in claim 1.

In addition, although Nagashima discloses that the rotational sensor 25a outputs signals in response to the revolution of the electric motor 25, Nagashima nowhere discloses that *the rising edges and trailing edges of the signals outputted by the rotational sensor 25a will be counted* to control the position and a speed of the sun roof. Therefore, Nagashima also fails to teach “said control unit performs arithmetic processing so as to control the position and a speed of the vehicle sun roof on the basis of a count signal, which is generated by counting rising edges and trailing edges of pulses of the pole detection signals” as recited in claim 1.

Accordingly, neither of the utilized references individually or in combination teaches or suggests the limitations of amended independent claim 1. Therefore, Applicants respectfully submit that amended independent claim 1 clearly defines over the teachings of the utilized references.

In addition, claims 2-4 and 6-9 depend, either directly or indirectly, from independent claim 1, and are therefore allowable based on their respective dependence from independent claim 1, which is believed to be allowable.

In view of the above remarks, Applicants respectfully submit that claims 1-4 and 6-9 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103 are respectfully requested.

Additional Cited References

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state of the art, no further comments are necessary with respect thereto.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Cheng-Kang (Greg) Hsu, Registration No. 61,007 at (703) 205-8000 in the Washington, D.C. area.

Application No. 10/588,752
Amendment dated May 7, 2008
Reply to Office Action of February 19, 2008

Docket No.: 0038-0497PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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